WHAT IS CLAIMED:

1. An isolated hypersensitive response elicitor protein comprising an isolated pair or more of spaced apart domains, each comprising an acidic portion linked to an alpha-helix and capable of eliciting a hypersensitive response in plants.

2. A protein according to claim 1, wherein the protein is recombinant.

3. An isolated nucleic acid molecule encoding a protein according to claim 1.

4. A nucleic acid molecule according to claim 3, wherein each domain is from a different source organism.

5. A nucleic acid molecule according to claim 3, wherein there are 3 or more spaced apart domains.

6. An expression vector containing a nucleic acid molecule according to claim 3 which is heterologous to the expression vector.

7. An expression vector according to claim 6, wherein the nucleic acid molecule is positioned in the expression vector in sense orientation and correct reading frame.

8. A host cell transformed with the nucleic acid molecule according to claim 3.

9. A host cell transformed according to claim 8, wherein the host cell is selected from the group consisting of a plant cell, a eukaryotic cell, and a procaryotic cell.

10. A host cell according to claim 8, wherein the nucleic acid molecule is transformed with an expression system.

11. A transgenic plant transformed with the nucleic acid molecule of claim 3.

12. A transgenic plant according to claim 11, wherein the plant is selected from the group consisting of alfalfa, rice, wheat, barley, rye, cotton, sunflower, peanut, corn, potato, sweet potato, bean pea, chicory, lettuce, endive, cabbage, brussel sprout, beet, parsnip, cauliflower, broccoli, turnip, radish, spinach, onion, garlic, eggplant, pepper, celery, carrot, squash, pumpkin, zucchini, cucumber, apple, pear, melon, citrus, strawberry, grape, raspberry, pineapple, soybean, tobacco, tomato, sorghum, and sugarcane.

13. A transgenic plant according to claim 11, wherein the plant is selected from the group consisting of *Arabidopsis thaliana*, *Saintpaulia*, petunia, pelargonium, poinsettia, chrysanthemum, carnation, and zinnia.

14. A transgenic plant according to claim 11, wherein the plant is a monocot.

15. A transgenic plant according to claim 11, wherein the plant is a dicot.

16. A transgenic plant according to claim 11, wherein each domain is from a different source organism.

17. A transgenic plant according to claim 11, wherein there are 3 or more spaced apart domains.

18. A transgenic plant seed transformed with the nucleic acid molecule of claim 3.

19. A transgenic plant seed according to claim 18, wherein the plant is selected from the group consisting of alfalfa, rice, wheat, barley, rye, cotton, sunflower, peanut, corn, potato, sweet potato, bean pea, chicory, lettuce, endive, cabbage, brussel sprout, beet, parsnip, cauliflower, broccoli, turnip, radish, spinach, onion, garlic, eggplant, pepper, celery, carrot, squash, pumpkin, zucchini, cucumber, apple, pear, melon, citrus, strawberry, grape, raspberry, pineapple, soybean, tobacco, tomato, sorghum, and sugarcane.

20. A transgenic plant seed according to claim 18, wherein the plant is selected from the group consisting of *Arabidopsis thaliana*, *Saintpaulia*, petunia, pelargonium, poinsettia, chrysanthemum, carnation, and zinnia.

21. A transgenic plant seed according to claim 18, wherein the plant is a monocot.

22. A transgenic plant seed according to claim 18, wherein the plant is a dicot.

23. A method of imparting disease resistance to plants comprising:

applying a protein according to claim 1 to a plant or a plant seed under conditions effective to impart disease resistance to the plant or to a plant grown from the plant seed.

24. A method according to claim 23, wherein the protein is applied to a plant.

25. A method according to claim 23, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to impart disease resistance to a plant grown from the plant seeds.

26. A method of enhancing plant growth comprising:

applying a protein according to claim 1 to a plant or a plant seed under conditions effective to enhance growth of the plants or of a plant grown from the plant seed.

27. A method according to claim 26, wherein the protein is applied to a plant.

28. A method according to claim 26, wherein the protein is applied to a plant seed and further comprising:

planting the plant seeds under conditions effective to enhance growth of a plant grown from the plant seed.

29. A method of controlling insects comprising:

applying a protein according to claim 1 to a plant or a plant seed under conditions effective to control insects.

30. A method according to claim 29, wherein the protein is applied to a plant.

31. A method according to claim 29, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to grow a plant from the plant seed and to control insects.

32. A method of imparting stress resistance to plants comprising:

applying a protein according to claim 1 to a plant or a plant seed under conditions effective to impart stress resistance to the plant or to a plant grown from the plant seed.

33. A method according to claim 32, wherein the protein is applied to a plant.

34. A method according to claim 32, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to impart stress resistance to a plant grown from the plant seed.

35. A method of imparting disease resistance to plants comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 3 and

planting the transgenic plant or transgenic plant seed under conditions effective to impart disease resistance to the plant or to a plant grown from the plant seed.

36. A method according to claim 35, wherein a transgenic plant is provided.

37. A method according to claim 35, wherein a transgenic plant seed is provided.

38. A method of enhancing growth of plants comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 3 and

planting the transgenic plant or transgenic plant seed under conditions effective to enhance growth of the plant or of a plant grown from the plant seed.

39. A method according to claim 38, wherein a transgenic plant is provided.

40. A method according to claim 38, wherein a transgenic plant seed is provided.

41. A method of controlling insects comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 3 and

planting the transgenic plant or transgenic plant seed under conditions effective to control insects on the plant or on a plant grown from the plant seed.

42. A method according to claim 41, wherein a transgenic plant is provided.

43. A method according to claim 41, wherein a transgenic plant seed is provided.

44. A method of imparting stress resistance to plants comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 3 and

planting the transgenic plant or transgenic plant seed under conditions effective to impart stress resistance to the plant or to a plant grown from the plant seed.

45. A method according to claim 44, wherein a transgenic plant is provided.

46. A method according to claim 44, wherein a transgenic plant seed is provided.

47. An isolated hypersensitive response elicitor protein comprising, in isolation, a domain comprising an acid portion linked to an alpha-helix and capable of eliciting a hypersensitive response in plants.

48. A protein according to claim 47, wherein the protein is recombinant.

49. An isolated nucleic acid molecule encoding a protein according to claim 47.

50. An isolated nucleic acid molecule according to claim 49, wherein there are at least 2 domains, each from a different source organism.

51. An isolated nucleic acid molecule according to claim 49, wherein there are 3 or more coupled domains.

52. An expression vector containing a nucleic acid molecule according to claim 49 which is heterologous to the expression vector.

53. An expression vector according to claim 52, wherein the nucleic acid molecule is positioned in the expression vector in sense orientation and correct reading frame.

54. A host cell transformed with the nucleic acid molecule according to claim 49.

55. A host cell transformed according to claim 54, wherein the host cell is selected from the group consisting of a plant cell, a eukaryotic cell, and a prokaryotic cell.

56. A host cell according to claim 54, wherein the nucleic acid molecule is transformed with an expression system.

57. A transgenic plant transformed with the nucleic acid molecule of claim 49.

58. A transgenic plant according to claim 57, wherein the plant is selected from the group consisting of alfalfa, rice, wheat, barley, rye, cotton, sunflower, peanut, corn, potato, sweet potato, bean pea, chicory, lettuce, endive,

cabbage, brussel sprout, beet, parsnip, cauliflower, broccoli, turnip, radish, spinach, onion, garlic, eggplant, pepper, celery, carrot, squash, pumpkin, zucchini, cucumber, apple, pear, melon, citrus, strawberry, grape, raspberry, pineapple, soybean, tobacco, tomato, sorghum, and sugarcane.

59. A transgenic plant according to claim 57, wherein the plant is selected from the group consisting of *Arabidopsis thaliana*, *Saintpaulia*, petunia, pelargonium, poinsettia, chrysanthemum, carnation, and zinnia.

60. A transgenic plant according to claim 57, wherein the plant is a monocot.

61. A transgenic plant according to claim 57, wherein the plant is a dicot.

62. A transgenic plant according to claim 57, wherein there are at least 2 coupled domains, each from a different source organism.

63. A transgenic plant according to claim 57, wherein there are 3 or more coupled domains.

64. A transgenic plant seed transformed with the nucleic acid molecule of claim 49.

65. A transgenic plant seed according to claim 64, wherein the plant is selected from the group consisting of alfalfa, rice, wheat, barley, rye, cotton, sunflower, peanut, corn, potato, sweet potato, bean pea, chicory, lettuce, endive, cabbage, brussel sprout, beet, parsnip, cauliflower, broccoli, turnip, radish, spinach, onion, garlic, eggplant, pepper, celery, carrot, squash, pumpkin, zucchini, cucumber, apple, pear, melon, citrus, strawberry, grape, raspberry, pineapple, soybean, tobacco, tomato, sorghum, and sugarcane.

66. A transgenic plant seed according to claim 64, wherein the plant is selected from the group consisting of *Arabidopsis thaliana*, *Saintpaulia*, petunia, pelargonium, poinsettia, chrysanthemum, carnation, and zinnia.

67. A transgenic plant seed according to claim 64, wherein the plant is a monocot.

68. A transgenic plant seed according to claim 64, wherein the plant is a dicot.

69. A method of imparting disease resistance to plants comprising:

applying a protein according to claim 47 to a plant or a plant seed under conditions effective to impart disease resistance to the plant or to a plant grown from the plant seed.

70. A method according to claim 69, wherein the protein is applied to a plant.

71. A method according to claim 69, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to impart disease resistance to a plant grown from the plant seed.

72. A method of enhancing plant growth comprising:

applying a protein according to claim 47 to a plant or a plant seed under conditions effective to enhance growth of the plant or of a plant grown from the plant seed.

73. A method according to claim 72, wherein the protein is applied to a plant.

74. A method according to claim 72, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to enhance growth of a plant grown from the plant seed.

75. A method of controlling insects comprising:

applying a protein according to claim 47 to a plant or a plant seed under conditions effective to control insects.

76. A method according to claim 75, wherein the protein is applied to a plant.

77. A method according to claim 75, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to grow a plant from the plant seed and to control insects.

78. A method of imparting stress resistance to plants comprising:

applying a protein according to claim 47 to a plant or a plant seed under conditions effective to impart stress resistance to the plant or to a plant grown from the plant seed.

79. A method according to claim 78, wherein the protein is applied to a plant.

80. A method according to claim 78, wherein the protein is applied to a plant seed and further comprising:

planting the plant seed under conditions effective to impart stress resistance to a plant grown from the plant seed.

81. A method of imparting disease resistance to plants comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 49 and

planting the transgenic plant or transgenic plant seed under conditions effective to impart disease resistance to the plant or to a plant grown from the plant seed.

82. A method according to claim 81, wherein a transgenic plant is provided.

83. A method according to claim 81, wherein a transgenic plant seed is provided.

84. A method of enhancing growth of plants comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 49 and

planting the transgenic plant or transgenic plant seed under conditions effective to enhance growth of the plant or of a plant grown from the plant seed.

85. A method according to claim 84, wherein a transgenic plant is provided.

86. A method according to claim 84, wherein a transgenic plant seed is provided.

87. A method of controlling insects comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 49 and

planting the transgenic plant or transgenic plant seed under conditions effective to control insects on the plant or on a plant grown from the plant seed.

88. A method according to claim 87, wherein a transgenic plant is provided.

89. A method according to claim 87, wherein a transgenic plant seed is provided.

90. A method of imparting stress resistance to plants comprising:

providing a transgenic plant or transgenic plant seed containing the nucleic acid according to claim 49 and

planting the transgenic plant or transgenic plant seed under conditions effective to impart stress resistance to the plant or to a plant grown from the plant seed.

91. A method according to claim 90, wherein a transgenic plant is provided.

92. A method according to claim 90, wherein a transgenic plant seed is provided.